## IN THE CLAIMS:

Please amend claims 32 et seq. as follows:

Claims 1 to 31 (cancelled)

32. (currently amended) A process for the preparation of *trans*-3-Ethyl-2,5-dihydro-4-methyl-N-[2-[4-[[[(4-methylcyclohexyl)amino]carbonyl]amino]sulfonyl]phenyl]ethyl]-2-oxo-1*H*-pyrrole-1-carboxamide, a compound of the formula 1,

Formula 1

10 comprising,

5

a) reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2,

$$X$$
 $Z$  $R$ 

## Formula 2

to obtain a compound of formula 3,

Formula 3

b) reacting a compound of formula 3 with 4-(2-Aminoethyl)benzene sulfonamide to obtain 4-[2-(3-Ethyl-4-methyl-2-carbonylpyrrolidineamido)ethyl]benzene sulfonamide, a compound of formula 4,

$$\begin{array}{c} \text{H}_3\text{C} \\ \text{O} \\ \text{O$$

Formula 4

- c) and further reacting the compound of formula 4 with *trans*-4-methylcyclohexyl isocyanate to obtain the compound of formula 1, wherein,
- 10 X is halogen, nitroaryl or haloaryl,

Z is O, S or NY, wherein Y is  $C_4$ - $C_5$ -alkyl,  $C_4$ - $C_5$ -haloalkyl, aryl or aralkyl, and

R is aryl or heteroaryl, where aryl or hetroaryl radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>.

 $R^1$  is H,  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -alkoxy or  $C_2$ - $C_5$ -alkenoxy,

 $R^2$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

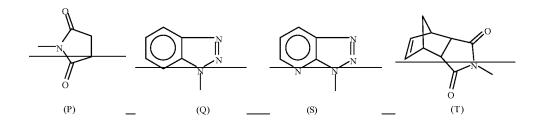
 $R^3$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

15

20

 $R^4$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl. , or

the moiety represented below by P, Q, S or T.



33) (currently amended) A process for the preparation of a compound of formula 3,

$$R_3C$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

Formula 3

10

5

comprising reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2,

$$Z - R$$

Formula 2

wherein,

X is halogen, nitroaryl or haloaryl,

Z is O, S or NY, wherein Y is  $C_4$ - $C_5$ -alkyl,  $C_4$ - $C_5$ -haloalkyl, aryl or aralkyl, and

R is aryl <del>or heteroaryl,</del> where aryl <del>or hetroaryl</del> radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

 $R^1$  is H,  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -alkoxy or  $C_2$ - $C_5$ -alkenoxy,

 $R^2$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

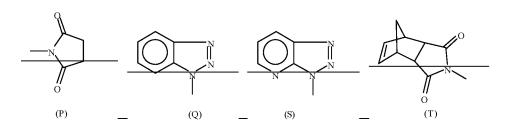
 $R^3$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

 $R^4$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl.  $\frac{1}{2}$ - $\frac{1}$ 

the moiety represented below by P, Q, S or T.

5

10



34) (currently amended) A process for the preparation of a compound of formula 4,

$$\begin{array}{c} H_3C \\ \\ O \\ \\ CH_3 \end{array} \\ \begin{array}{c} O \\ \\ NH \end{array} \\ \begin{array}{c} O \\ \\ SO_2NH_2 \\ \\ \end{array}$$

Formula 4

comprising,

5

a) reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2,

Formula 2

to obtain a compound of formula 3,

Formula 3

- b) reacting a compound of formula 3 with 4(2-Aminoethyl)benzene sulfonamide to obtain 4-[2-(3-Ethyl-4-methyl-2-carbonyl pyrrolidine amido)ethyl]benzene sulfonamide, a compound of formula 4, wherein,
- X is halogen, nitroaryl or haloaryl,
  Z is O, S or NY, wherein Y is C<sub>4</sub>-C<sub>5</sub>-alkyl, C<sub>4</sub>-C<sub>5</sub>-haloalkyl, aryl or aralkyl and

R is aryl <del>or heteroaryl,</del> where aryl <del>or hetroaryl</del> radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

5  $R^1$  is H,  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -alkoxy or  $C_2$ - $C_5$ -alkenoxy,

 $R^2$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

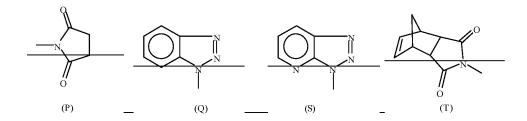
 $R^3$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

 $R^4$  is  $C_1\hbox{-} C_5\hbox{-alkyl},$   $C_2\hbox{-} C_5\hbox{-alkenyl},$   $C_2\hbox{-} C_5\hbox{-alkynyl},$   $C_1\hbox{-} C_5\hbox{-haloalkyl}$  or  $C_2\hbox{-} C_5\hbox{-haloalkenyl}.$  , or

the moiety represented below by P, Q, S or T.

10

15



35) (currently amended) A process for the preparation of a compound of formula 4,

$$\begin{array}{c} \text{H}_3\text{C} \\ \text{NH} \end{array} \\ \begin{array}{c} \text{SO}_2\text{NH}_2 \\ \end{array}$$

Formula 4

# comprising reacting a compound of formula 3

$$H_3C$$
 $Z$ 
 $R$ 
 $CH_3$ 

#### Formula 3

with 4-(2-Aminoethyl)benzene sulfonamide to obtain 4-[2-(3-Ethyl-4-methyl-2-carbonyl pyrrolidine amido)ethyl]benzene sulfonamide, a compound of formula 4,

wherein,

5

15

Z is O, S or NY, wherein Y is  $C_4$ - $C_5$ -alkyl,  $C_4$ - $C_5$ -haloalkyl, aryl or aralkyl and

R is aryl <del>or heteroaryl,</del> where aryl <del>or hetroaryl</del> radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

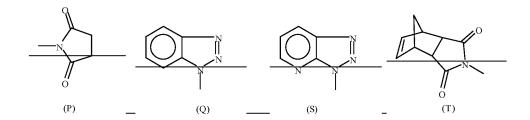
 $R^1$  is H,  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -alkoxy or  $C_2$ - $C_5$ -alkenoxy,

 $R^2$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

 $R^3$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

20  $R^4$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl.  $\frac{1}{100}$ 

the moiety represented below by P, Q, S or T.



- 36) (previously added) The process as claimed in claim 35 wherein the compound of formula 4 is further reacted with *trans*-4-methylcyclohexyl isocyanate to obtain the compound of formula 1.
- 37) (previously added) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-

pyrrolidin-2-one with a compound of formula 2, is carried out in presence of an

- organic base and optionally an acid scavenger compound.
  - 38) (previously added) The process as claimed in claim 32 comprising,
    - a) reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2, wherein Z is O and R is 4-nitrophenyl, to obtain a compound of formula 3a,

20

15

5

## Formula 3a

- b) reacting the compound of formula 3a with 4-(2-Aminoethyl)benzene sulfonamide to obtain 4-[2-(3-Ethyl-4-methyl-2-carbonyl pyrrolidine amido)ethyl]benzene sulfonamide, a compound of formula 4,
- c) and further reacting the compound of formula 4 with *trans*-4-methylcyclohexyl isocyanate to obtain the compound of formula 1.
- 39) (previously added) The process as claimed in claim 37 wherein the organic base is selected from the group consisting of 4 dimethylaminopyridine; 4-pyrrolidinopyridine; diisopropylethylamine, tetramethylguanidine; 1,8-diazabicyclo[5.4.0]undec-7-ene; 1,5-diazabicyclo [4.3.0] non-5-ene; 2,6-lutidine and picolines.

5

15

40) (previously added) The process as claimed in claim 37 wherein the acid scavenger compound is selected from the group consisting of trialkylamines, pyridine, sodium carbonate and potassium carbonate.

- 20 41) (previously added) The process as claimed in claim 37 wherein the organic base is 4-dimethylaminopyridine and the acid scavenger compound is triethylamine.
- 42) (previously added) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of

formula 2 is carried out in presence of a solvent selected from the group consisting of aliphatic or aromatic hydrocarbons, ethers, nitriles and amides.

- 5 43) (previously added) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2 is carried out in a chlorinated hydrocarbon solvent.
- 44) (previously added) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2 is carried out at a temperature between the range of about 0°C to about 35°C for about 8 to about 15 hours.
  - 45) (previously added) The process as claimed in claim 38 wherein a compound of formula 3a, is obtained in a purity of greater than 99%.
  - 46) (previously added) The process as claimed in claim 38 wherein, a compound of formula 4 is obtained in a purity of greater than 99%.
  - 47) (previously added) The process as claimed in claim 38 wherein, a compound of formula 1 is obtained in a purity of greater than 99%.
- 20 48) (currently amended) The intermediate compound of formula 3,

15

$$H_3C$$
 $N$ 
 $Z$ 
 $R$ 

Formula 3

wherein,

5

10

15

20

Z is O, S or NY, wherein Y is C<sub>4</sub>-C<sub>5</sub>-alkyl, C<sub>4</sub>-C<sub>5</sub>-haloalkyl, aryl or aralkyl, and

R is aryl or heteroaryl, where aryl or hetroaryl radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

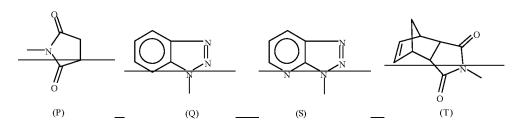
 $R^1$  is H,  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -alkoxy or  $C_2$ - $C_5$ -alkenoxy,

 $R^2$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

 $R^3$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

 $R^4$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl.  $\frac{1}{2}$ - $\frac{1}$ 

the moiety represented below by P, Q, S or T.



49) (currently amended) The intermediate compound of formula 3, as claimed in claim 48 wherein Z is O and R is aryl or the moiety represented by (P), (Q), (S) or (T), characterised in that aryl is phenyl substituted with one or more radicals selected from nitro, halo, cyano, 4-trifluoroalkyl, 2,4-bis(trifluoroalkyl) or 2,6-bis(trifluoroalkyl).

- The intermediate compound of formula 3, as claimed in claim 48, wherein Z is O and R is selected from phenyl substituted with 4 nitro, 2,4-dinitro, 2,6-dinitro, 4-halo, 2,4-dihalo, 2,6-dihalo, 4-trifluromethyl, 2,4-bis(trifluoromethyl) or 2,6-bis(trifluoromethyl).
- 51) (previously added) The intermediate compound of formula 3a.

Formula 3a

52) (previously added) The compound as claimed in claim 51 having a purity greater than 99%.

15

5